AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A catalyst for decomposing an organic halide(s) comprising:

(a) [[1]] 5 to 30 wt. % of a water-insoluble vanadyl sulfate (β-VOSO4);

(b) 20 to 70 wt. % of at least one oxide comprising one of titanium and niobium; and

(c) 20 to 70 wt. % of at least one sulfate comprising at least one atom selected from the group consisting of calcium, barium, strontium, and lead,

where (a) + (b) + (c) = 100 wt. %.

2. (Canceled)

3. (Canceled)

4. (Previously Presented) A catalyst as claimed in claim 1 wherein the oxide is titanium dioxide.

5. (Previously Presented) A catalyst as claimed in claim 1 wherein the sulfate is barium sulfate.

6. (Previously Presented) A catalyst as claimed in claim 1 wherein the organic halide(s) is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

7. (Original) A catalyst as claimed in claim 6 wherein the organic halide(s) is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

8. (Currently Amended) A method of decomposing organic halide(s) in a gas ~~characterized by~~ comprising contacting a gas containing an organic halide(s) with the catalyst described in claim 1 to decompose the organic halide(s).

9. (Original) A method of decomposing as claimed in claim 8 wherein the contact between the organic halide(s) and the catalyst is carried out at a temperature from 140 to 300 °C.

10. (Previously Presented) A method of decomposing as claimed in claim 8 wherein th organic halid (s) is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkan s and p lychloroalkan s; chloroalk nes and

polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

11. (Original) A method of decomposing as claimed in claim 10 wherein the organic halide(s) is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

12. (Previously Presented) A method of decomposing organic halide(s) in a gas characterized by contacting a gas containing an organic halide(s) with the catalyst described in claim 4 to decompose the organic halide(s).

13. (Previously Presented) A method of decomposing organic halide(s) in a gas characterized by contacting a gas containing an organic halide(s) with the catalyst described in claim 5 to decompose the organic halide(s).

14. (Previously Presented) A method of decomposing at least one organic halide, comprising contacting a gas containing at least one organic halide with a catalyst comprising water-insoluble vanadyl sulfate (β-VOSO4).

15. (Previously Pres nted) A method of decomposing as claimed in claim 14 wherein the catalyst further comprises at least on oxide c mprising at least one atom selected from the group consisting of titanium, zirconium, niobium,

molybdenum, tungsten and chromium; and at least one sulfate c mprising at least one atom selected from the group consisting of alkaline earth metals and lead.

16. (Previously Presented) A method of decomposing as claimed in claim 15 wherein the catalyst comprises 0 to 70 wt. % of the oxide(s), 0 to 70 wt. % of the sulfate(s), and 0.5 to 100 wt. % of the water-insoluble vanadyl sulfate.

17. (Previously Presented) A method of decomposing as claimed in claim 15 wherein the oxide is titanium dioxide.

18. (Previously Presented) A method of decomposing as claimed in claim 16 wherein the oxide is titanium dioxide.

19. (Previously Presented) A method of decomposing as claimed in claim 15 wherein the sulfate is barium sulfate.

20. (Previously Presented) A method of decomposing as claimed in claim 16 wherein the sulfate is barium sulfate.

21. (Previously Presented) A method of decomposing as claimed in claim 17 wherein the sulfate is barium sulfate.

22. (Previously Presented) A method of decomposing as claimed in claim 18 wh rein the sulfate is barium sulfate.

23. (Previously Presented) A method of decomposing as claimed in claim 14 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

24. (Previously Presented) A method of decomposing as claimed in claim 15 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

25. (Previously Presented) A method of decomposing as claimed in claim 16 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

26. (Previously Presented) A method of decomposing as claimed in claim 17 wherein th at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybrom dioxins;

polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

27. (Previously Presented) A method of decomposing as claimed in claim 18 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

28. (Previously Presented) A method of decomposing as claimed in claim 19 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

29. (Previously Presented) A method of decomposing as claimed in claim 20 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

30. (Previously Presented) A method of decomposing as claimed in claim 21 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

31. (Previously Presented) A method of decomposing as claimed in claim 22 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins; polychlorobiphenyls; chloroalkanes and polychloroalkanes; chloroalkenes and polychloroalkenes; bromodioxins and polybromodioxins; polybromobiphenyls; bromoalkanes and polybromoalkanes; and bromoalkenes and polybromoalkenes.

32. (Previously Presented) A method of decomposing as claimed in claim 23 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

33. (Previously Pr sented) A method of decomposing as claimed in claim 24 wh rein the at l ast one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene,

chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

34. (Previously Presented) A method of decomposing as claimed in claim 25 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

35. (Previously Presented) A method of decomposing as claimed in claim 26 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

36. (Previously Presented) A method of decomposing as claimed in claim 27 wher in the at l ast on organic halide is at least one of chlor dioxins and polychl rodioxins, polychlorobiph nyls, chlorobenzen , dichlorobenzene, chlor toluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and

polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

37. (Previously Presented) A method of decomposing as claimed in claim 28 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

38. (Previously Presented) A method of decomposing as claimed in claim 29 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

39. (Previously Presented) A method of decomposing as claimed in claim 30 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene,

bromotoluene, bromophenol, polybromobiph nyl ether, bromomethane and bromoethylene.

40. (Previously Presented) A method of decomposing as claimed in claim 31 wherein the at least one organic halide is at least one of chlorodioxins and polychlorodioxins, polychlorobiphenyls, chlorobenzene, dichlorobenzene, chlorotoluene, chlorophenol, chloromethane, chloroethylene, bromodioxins and polybromodioxins, polybromobiphenyls, bromobenzene, dibromobenzene, bromotoluene, bromophenol, polybromobiphenyl ether, bromomethane and bromoethylene.

41. (New) A catalyst as claimed in claim 4, wherein the titanium oxide is an anatase-type titanium oxide.